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>

> s (hydrophobin? or SC3 or HFBI or HFBII or SRHI) and (aqueous (s) two (w) phase)

1	0	FILE ADISCTI
2	0	FILE ADISINSIGHT
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 L65 1 FILE WPIDS  
 L66 0 FILE WPIFV

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L67 54 (HYDROPHOBIN? OR SC3 OR HFBI OR HFBII OR SRHI) AND (AQUEOUS (S)  
 TWO (W) PHASE)

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L68 21 DUP REM L67 (33 DUPLICATES REMOVED)

=> d ibib abs 168 1-21

L68 ANSWER 1 OF 21 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 1

ACCESSION NUMBER: 2004:261058 BIOSIS  
 DOCUMENT NUMBER: PREV200400262827  
 TITLE: Large-scale separation and production of engineered  
 proteins, designed for facilitated recovery in  
 detergent-based **aqueous two-**  
**phase** extraction systems.  
 AUTHOR(S): Selber, Klaus; Tjerneld, Folke; Collen, Anna; Hyytia,  
 Teppo; Nakari-Setala, Tiina; Bailey, Michael; Fagerstrom,  
 Richard; Kan, John; van der Laan, Joop; Penttila, Merja;  
 Kula, Maria-Regina [Reprint Author]  
 CORPORATE SOURCE: Institute of Enzyme Technology, Heinrich-Heine University,  
 Juelich, Duesseldorf, D-52426, Germany  
 mrk3372002@yahoo.de  
 SOURCE: Process Biochemistry, (March 31 2004) Vol. 39, No. 7, pp.  
 889-896. print.  
 ISSN: 1359-5113 (ISSN print).  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 19 May 2004  
 Last Updated on STN: 19 May 2004

AB The feasibility and scalability of extraction in detergent-based  
**aqueous two-phase** systems for the separation  
 of proteins from culture broth is demonstrated. At the same time the  
 large-scale production of a fusion protein and the influence of  
 cultivation scale on the efficiency of separation were investigated. An  
 amphiphilic fusion protein EGIcore-**HFBI** was chosen, consisting  
 of the catalytic core of the cellulase endoglucanase I and the small  
 protein **hydrophobin** I, expressed homologously in Trichoderma

reesei. Using the technical nonionic detergent Agrimul NRE 1205 the separation was successfully scaled up to 1200 l. No differences in yield or in partition coefficient were observed at 10 ml and 1200 l scale. Changes in the fermentation temperature and scale, however, can influence the properties of the protein and thus alter partition coefficient and yield. The decreased separation efficiency appears to be correlated with changes in glycosylation at lower cultivation temperatures.

L68 ANSWER 2 OF 21 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
ACCESSION NUMBER: 2004:324471 SCISEARCH  
THE GENUINE ARTICLE: 806GQ  
TITLE: Large-scale separation and production of engineered proteins, designed for facilitated recovery in detergent-based **aqueous two-phase** extraction systems  
AUTHOR: Selber K; Tjerneld F; Collen A; Hyytia T; Nakari-Setälä T; Bailey M; Fagerström R; Kan J; van der Laan J; Penttinen M; Kula M R (Reprint)  
CORPORATE SOURCE: Univ Dusseldorf, Inst Enzyme Technol, D-52426 Dusseldorf, Juelich, Germany (Reprint); Lund Univ, Ctr Chem & Chem Engrg, Dept Biochem, S-22100 Lund, Sweden; VTT Biotechnol & Food Res, FIN-02044 Espoo, Finland; Genencor Int BV, NL-2333 CN Leiden, Netherlands  
COUNTRY OF AUTHOR: Germany; Sweden; Finland; Netherlands  
SOURCE: PROCESS BIOCHEMISTRY, (31 MAR 2004) Vol. 39, No. 7, pp. 889-896.  
Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND.  
ISSN: 0032-9592.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 26

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB The feasibility and scalability of extraction in detergent-based **aqueous two-phase** systems for the separation of proteins from culture broth is demonstrated. At the same time the large-scale production of a fusion protein and the influence of cultivation scale on the efficiency of separation were investigated. An amphiphilic fusion protein EGIcore-**HFBI** was chosen, consisting of the catalytic core of the cellulase endoglucanase I and the small protein **hydrophobin** I, expressed homologously in *Trichoderma reesei*. Using the technical nonionic detergent Agrimul NRE 1205 the separation was successfully scaled up to 1200 l. No differences in yield or in partition coefficient were observed at 10 ml and 1200 l scale. Changes in the fermentation temperature and scale, however, can influence the properties of the protein and thus alter partition coefficient and yield. The decreased separation efficiency appears to be correlated with changes in glycosylation at lower cultivation temperatures. (C) 2003 Published by Elsevier Ltd.

L68 ANSWER 3 OF 21 USPATFULL on STN  
ACCESSION NUMBER: 2002:241975 USPATFULL  
TITLE: Electrophoretic medium and process for the production thereof  
INVENTOR(S): Paolini, Richard J., JR., Arlington, MA, UNITED STATES  
Miller, David D., Billerica, MA, UNITED STATES  
Comiskey, Barrett, Cambridge, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002131147	A1	20020919
APPLICATION INFO.:	US 2002-683903	A1	20020228 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-277079P	20010319 (60)

US 2001-277391P 20010319 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: DAVID J COLE, E INK CORPORATION, 733 CONCORD AVE,  
CAMBRIDGE, MA, 02138-1002  
NUMBER OF CLAIMS: 29  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 2 Drawing Page(s)  
LINE COUNT: 1244

AB A two-phase electrophoretic medium comprises a continuous phase and a discontinuous phase. The discontinuous phase comprises a plurality of droplets, each of which comprises a suspending fluid and at least one particle disposed within the suspending fluid and capable of moving through the fluid upon application of an electric field to the electrophoretic medium. The continuous phase surrounds and encapsulates the discontinuous phase. The discontinuous phase comprises at least about 40 percent by volume of the electrophoretic medium.

L68 ANSWER 4 OF 21 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.  
(2004) on STN DUPLICATE 2

ACCESSION NUMBER: 2003:1946 AGRICOLA  
DOCUMENT NUMBER: IND23297051  
TITLE: Expression of a fungal **hydrophobin** in the  
Saccharomyces cerevisiae cell wall: effect on cell  
surface properties and immobilization.  
AUTHOR(S): Nakari-Setälä, T.; Azeredo, J.; Henriques, M.;  
Oliveira, R.; Teixeira, J.; Linder, M.; Penttilä, M.  
SOURCE: Applied and environmental microbiology, July 2002.  
Vol. 68, No. 7. p. 3385-3391  
Publisher: Washington : American Society for  
Microbiology  
CODEN: AEMIDF; ISSN: 0099-2240  
NOTE: Includes references  
PUB. COUNTRY: District of Columbia; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB The aim of this work was to modify the cell surface properties of Saccharomyces cerevisiae by expression of the **HFBI hydrophobin** of the filamentous fungus Trichoderma reesei on the yeast cell surface. The second aim was to study the immobilization capacity of the modified cells. Fusion to the Flo1p flocculin was used to target the **HFBI** moiety to the cell wall. Determination of cell surface characteristics with contact angle and zeta potential measurements indicated that **HFBI**-producing cells are more apolar and slightly less negatively charged than the parent cells. Adsorption of the yeast cells to different commercial supports was studied. A twofold increase in the binding affinity of the **hydrophobin**-producing yeast to hydrophobic silicone-based materials was observed, while no improvement in the interaction with hydrophilic carriers could be seen compared to that of the parent cells. Hydrophobic interactions between the yeast cells and the support are suggested to play a major role in attachment. Also, a slight increase in the initial adsorption rate of the **hydrophobin** yeast was observed. Furthermore, due to the engineered cell surface, **hydrophobin**-producing yeast cells were efficiently separated in an **aqueous two-phase** system by using a nonionic polyoxyethylene detergent, C(12-18)EO(5).

L68 ANSWER 5 OF 21 CEABA-VTB COPYRIGHT 2004 DECHEMA on STN  
ACCESSION NUMBER: 2002(10):5428 CEABA-VTB FILE SEGMENT B  
TITLE: Primary recovery of a genetically engineered  
Trichoderma reesei endoglucanase I (Cel 7B) fusion  
protein in cloud point extraction systems

AUTHOR: Collen, A.; Selber, K.; Hyytia, T.; Persson, J.;  
Nakari-Setälä, T.; Bailey, M.; Fagerström, R.; Kula,  
M.-R.; Penttilä, M.; Staalbrand, H.; Tjerneld, F.  
CORPORATE SOURCE: Lund Univ., S; VTT Biotechnol., Espoo, FIN; Univ.  
Duesseldorf, Juelich, D  
SOURCE: Biotechnology and Bioengineering (2002) 78(4), 51  
Reference(s), 385-394, 4f, 3t  
CODEN: BIBIAU ISSN: 0006-3592  
DOCUMENT TYPE: Journal  
LANGUAGE: English

FS B

AB **Aqueous two-phase** extraction or cloud point  
extraction systems (CPE) is designated as detergent based system used to  
separate hydrophobic from hydrophilic proteins to increase the  
specificity of such systems affinity derived surfactants have been  
employed and a hydrophilic cellulose from *Trichoderma reesei* called  
endoglucanase I (EGI) was partitioned to thin the detergent-based system  
by the fusion of a hydrophobic protein (**hydrophobin**) to the  
target protein. Here the partitioning of hydrophilic EGI by fusion of  
peptide tags to the protein is studied and the expression of fused  
protein under large scale conditions was studied. The partitioning of the  
*T. reesei* strain (WP4) tag was shown to strongly enhance partitioning of  
the tagged protein to the detergent-enriched phase leaving unmodified  
cellulases and bulk proteins in the water phase. (Steen, Helen J.)

L68 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:766622 CAPLUS  
DOCUMENT NUMBER: 137:368622  
TITLE: Parameters influencing protein extraction for whole  
broths in detergent based **aqueous**  
**two-phase** systems  
AUTHOR(S): Selber, Klaus; Collen, Anna; Hyytia, Teppo; Penttilä,  
Merja; Tjerneld, Folke; Kula, Maria-Regina  
CORPORATE SOURCE: Institut für Enzymtechnologie, Heinrich-Heine-  
Universität Düsseldorf, Jülich, D-52426, Germany  
SOURCE: Bioseparation (2002), Volume Date 2001, 10(4/5),  
229-236  
CODEN: BISPE4; ISSN: 0923-179X  
PUBLISHER: Kluwer Academic Publishers  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The parameters important for an optimization of cloud point extraction in tech.  
scale were investigated using a genetically engineered fusion protein  
derived from endoglucanase I expressed in *Trichoderma reesei* and the  
nonionic polyoxyethylene Agrimul NRE 1205. The key parameters are temperature,  
detergent concentration, and addnl. salts. These parameters are interdependent,  
thus there is an optimum in the partition coefficient with respect to detergent  
concentration and a maximum for the partition coefficient and the yield with respect  
to

temperature These results were confirmed for the detergent C12E5 to demonstrate  
that these optima are due to the nature of polyoxyethylenes. Cloud point  
extraction was found to be only slightly affected by pH. In the case studied  
extraction of whole broth is favorable for a high yield and partition coefficient,  
since fusion protein adhering to the cells can be solubilized. However  
some loss of detergent which remains in the fungal biomass was observed

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS  
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DUPLICATE 3

ACCESSION NUMBER: 2002:260341 BIOSIS  
DOCUMENT NUMBER: PREV200200260341  
TITLE: A novel two-step extraction method with detergent/polymer  
systems for primary recovery of the fusion protein  
endoglucanase I-**hydrophobin** I.  
AUTHOR(S): Collen, Anna; Persson, Josefine; Linder, Markus;

Nakari-Setälä, Tiina; Penttinen, Merja; Tjerneld, Folke  
[Reprint author]; Sivars, Ulf  
CORPORATE SOURCE: Department of Biochemistry, Center for Chemistry and  
Chemical Engineering, Lund University, S-221 00, Lund,  
Sweden  
folke.tjerneld@biokem.lu.se  
SOURCE: Biochimica et Biophysica Acta, (15 January, 2002) Vol.  
1569, No. 1-3, pp. 139-150. print.  
CODEN: BBACAQ. ISSN: 0006-3002.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 24 Apr 2002  
Last Updated on STN: 24 Apr 2002

B Extraction systems for hydrophobically tagged proteins have been developed  
based on phase separation in aqueous solutions of non-ionic detergents and  
polymers. The systems have earlier only been applied for separation of  
membrane proteins. Here, we examine the partitioning and purification of  
the amphiphilic fusion protein endoglucanase I-core-**hydrophobin** I  
(EGI-core-**HFBI**) from culture filtrate originating from a  
Trichoderma reesei fermentation. The micelle extraction system was formed  
by mixing the non-ionic detergent Triton X-114 or Triton X-100 with the  
hydroxypropyl starch polymer, Reppal PES100. The detergent/polymer  
**aqueous two-phase** systems resulted in both  
better separation characteristics and increased robustness compared to  
cloud point extraction in a Triton X-114/water system. Separation and  
robustness were characterized for the parameters: temperature, protein and  
salt additions. In the Triton X-114/Reppal PES100 detergent/polymer  
system EGI-core-**HFBI** strongly partitioned into the micelle-rich  
phase with a partition coefficient (K) of 15 and was separated from  
hydrophilic proteins, which preferably partitioned to the polymer phase.  
After the primary recovery step, EGI-core-**HFBI** was quantitatively  
back-extracted (KEGI-core-**HFBI**=150, yield=99%) into a water  
phase. In this second step, ethylene oxide-propylene oxide (EOPO)  
copolymers were added to the micelle-rich phase and temperature-induced  
phase separation at 55°C was performed. Total recovery of EGI-core-  
**HFBI** after the two separation steps was 90% with a volume  
reduction of six times. For thermolabile proteins, the back-extraction  
temperature could be decreased to room temperature by using a  
hydrophobically modified EOPO copolymer, with slightly lower yield. The  
addition of thermoseparating co-polymer is a novel approach to remove  
detergent and effectively releases the fusion protein EGI-core-**HFBI**  
into a water phase.

68 ANSWER 8 OF 21 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
ACCESSION NUMBER: 2002:287918 SCISEARCH  
THE GENUINE ARTICLE: 536GM  
TITLE: A novel two-step extraction method with detergent/polymer  
systems for primary recovery of the fusion protein  
endoglucanase I-**hydrophobin** I  
AUTHOR: Collen A; Persson J; Linder M; Nakari-Setälä T; Penttinen  
M; Tjerneld F (Reprint); Sivars U  
CORPORATE SOURCE: Lund Univ, Ctr Chem & Chem Engr, Dept Biochem, POB 124,  
S-22100 Lund, Sweden (Reprint); Lund Univ, Ctr Chem & Chem  
Engr, Dept Biochem, S-22100 Lund, Sweden; VTT Biotechnol &  
Food Res, FIN-02044 Espoo, Finland  
COUNTRY OF AUTHOR: Sweden; Finland  
SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA-GENERAL SUBJECTS, (15 JAN  
2002) Vol. 1569, No. 1-3, pp. 139-150.  
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE  
AMSTERDAM, NETHERLANDS.  
ISSN: 0304-4165.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 44

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

B Extraction systems for hydrophobically tagged proteins have been

developed based on phase separation in **aqueous** solutions of non-ionic detergents and polymers. The systems have earlier only been applied for separation of membrane proteins. Here, we examine the partitioning and purification of the amphiphilic fusion protein endoglucanase I-core-**hydrophobin** I (EGI(core)-**HFBI**) from culture filtrate originating from a *Trichoderma reesei* fermentation. The micelle extraction system was formed by mixing the non-ionic detergent Triton X-114 or Triton X-100 with the hydroxypropyl starch polymer, Reppal PES100. The detergent/polymer **aqueous two-phase** systems resulted in both better separation characteristics and increased robustness compared to cloud point extraction in a Triton X-114/water system. Separation and robustness were characterized for the parameters: temperature, protein and salt additions. In the Triton X-114/Reppal PES100 detergent/polymer system EGI(core)-**HFBI** strongly partitioned into the micelle-rich phase with a partition coefficient (K) of 15 and was separated from hydrophilic proteins, which preferably partitioned to the polymer phase. After the primary recovery step, EGI(core)-**HFBI** was quantitatively back-extracted (KEGIcore-**HFBI** = 150, yield = 99%) into a water phase. In this second step, ethylene oxide-propylene oxide (EOPO) copolymers were added to the micelle-rich phase and temperature-induced phase separation at 55degreesC was performed. Total recovery of EGI(core)-**HFBI** after the two separation steps was 90% with a volume reduction of six times. For thermolabile proteins, the back-extraction temperature could be decreased to room temperature by using a hydrophobically modified EOPO copolymer, with slightly lower yield. The addition of thermoseparating co-polymer is a novel approach to remove detergent and effectively releases the fusion protein EGI(core)-**HFBI** into a water phase. (C) 2002 Elsevier Science B.V. All rights reserved.

L68 ANSWER 9 OF 21 ANABSTR COPYRIGHT 2004 RSC on STN DUPLICATE 4  
 AB Endoglucanases (EGI) (endo-1,4- $\beta$ -D-glucan-4-glucanohydrolase, EC 3.2.1.4, Ce17B) of *Trichoderma reesei* are industrially important enzymes. Thus, there is a great need for development of a primary recovery method suitable for large-scale utilization. In this study we present a concept applicable for large-scale purification of an EGI fusion protein by one-step extraction in a poly(ethylene glycol) PEG-sodium/potassium phosphate **aqueous two-phase** system. EGI is a two-module enzyme composed of an N-terminal catalytic module and a C-terminal cellulose binding module (CBM) separated by a glycosylated linker region. Partitioning of six different EGI constructs, containing the C-terminal extensions (WP)2, (WP)4 or the amphiphilic protein **hydrophobin** I (HFB) of *T. reesei* instead of the CBM were studied to evaluate if any of the fusions could improve the partition coefficient sufficiently to be suitable for large-scale production. All constructs showed improved partitioning in comparison to full length EGI. The (WP)4 extensions resulted in 26- to 60-fold improvement of partition coefficient. Consequently, a relative minor change in amino-acid sequence on the two-module protein EGI improved the partition coefficient significantly in the PEG 4000-sodium/potassium phosphate system. The addition of **HFBI** to EGI clearly enhanced the partition coefficient (K = 1.2) in comparison to full-length EGI (K = 0.035). Partitioning of the construct with (WP)4 fused to the catalytic module and a short sequence of the linker (EGICore-P5(WP)4) resulted in the highest partition coefficient (K = 54) and a yield of 98% in the PEG phase. Gel electrophoresis showed that the construct with the (WP)4 tag attached after a penta-proline linker could be purified from the other bulk proteins by only a single-step separation in the PEG 4000-sodium/potassium phosphate system. This is a major improvement in comparison with the previously studied model (ethylene oxide-propylene oxide)-dextran system. Hence, this construct will be suitable for further optimization of the extraction of the enzyme in a PEG 4000-sodium/potassium phosphate system from culture filtrate.

L68 ANSWER 10 OF 21 DISSABS COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 2002:9380 DISSABS Order Number: AAIC806246 (not available for sale by UMI)  
TITLE: Hydrophobic fusion tags: Implication for bioseparation and cellular expression  
AUTHOR: Collen, Anna Maria Christine [Ph.D.]  
CORPORATE SOURCE: Lunds Universitet (Sweden) (0899)  
SOURCE: Dissertation Abstracts International, (2001) Vol. 62, No. 4C, p. 565. Order No.: AAIC806246 (not available for sale by UMI).  
ISBN: 91-7874-140-8.  
DOCUMENT TYPE: Dissertation  
FILE SEGMENT: DAI  
LANGUAGE: English

AB The studies in this thesis have shown that the partitioning of endoglucanase I (EGI, Cel7B) from *Trichoderma reesei* could be significantly improved by relatively minor genetic engineering. By adding short peptides composed of tryptophan and proline residues to EGI, extreme partitioning could be obtained. The site of the tag fission was shown to be crucial for the efficiency of the tag. Methods suitable for large-scale purification of genetically modified EGI by a single-step extraction in **aqueous two-phase** systems have been established. The most optimal fusion protein, with respect to partitioning enhancement resulted, however, in impaired production in *T. reesei*. This was further elucidated and the low production was suggested to be caused by several factors such as proteolysis, impaired secretion and intracellular accumulation of the hydrophobic fusion protein. At certain stages during growth of the transformant expressing EGI<sub>core-p5(WP)4</sub> slight induction of the gene encoding the ER residual chaperone BIPI was detected.

Furthermore, the amphiphilic protein **hydrophobin I** was utilized as a fusion tag to direct partitioning in **aqueous two phase** systems. A system with improved separation features was evaluated, which is a clear progression from previously used systems with respect to both robustness and purification properties. Applications towards large-scale purification with this system might be possible in the foreseeable future. Additionally, a novel approach for detergent removal after **two-phase** extraction in detergent based systems was developed. By addition of thermoseparating polymers, HM-EOPO or EOPO, phase separation could be induced by temperature increase, and thus the fusion protein could be recovered in a water phase. This method is both environmentally benign and displays compatibility with subsequent purification steps and handling of the target protein.

68 ANSWER 11 OF 21 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 5

ACCESSION NUMBER: 2002:267630 BIOSIS  
DOCUMENT NUMBER: PREV200200267630  
TITLE: The **hydrophobins HFBI** and **HFBII** from *Trichoderma reesei* showing efficient interactions with nonionic surfactants in **aqueous two-phase** systems.  
AUTHOR(S): Linder, Markus [Reprint author]; Selber, Klaus; Nakari-Setälä, Tiina; Qiao, Mingqiang; Kula, Maria-Regina; Penttinen, Merja  
CORPORATE SOURCE: VTT Biotechnology, FIN-02044, Espoo, Finland markus.linder@vtt.fi  
SOURCE: Biomacromolecules, (Summer, 2001) Vol. 2, No. 2, pp. 511-517. print.  
ISSN: 1525-7797.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 1 May 2002  
Last Updated on STN: 1 May 2002

B Fungal **hydrophobins** are a group of surface active, self-assembling proteins. The filamentous fungus *Trichoderma reesei*

produces two (class II) **hydrophobins**, **HFBI** and **HFBII**. We have studied how these water-soluble **hydrophobins** behave in two-phase systems using a series of nonionic surfactants with different characteristics. It was found that both **hydrophobins**, but especially **HFBI**, had a very high affinity for the surfactants. The highest partitioning coefficient, over 2500, was observed for **HFBI** with C11E02. Reducing the disulfides in the protein resulted in a complete loss of affinity for the surfactant, which demonstrates that the interaction is dependent on the disulfide-stabilized conformation. The **hydrophobins** could be efficiently extracted back from the surfactant phase by addition of alcohols such as isobutanol. Effects of the type of surfactant, temperature, pH, and ionic strength were investigated. The use of this method for purifying the proteins from crude fungal culture supernatants is demonstrated and implications of the protein-polymer interaction are discussed.

L68 ANSWER 12 OF 21 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 ACCESSION NUMBER: 2002-10300 BIOTECHDS  
 TITLE: Parameters influencing protein extraction for whole broths in detergent based **aqueous two-phase** systems;  
           vector-mediated fusion gene transfer, expression in Trichoderma reesei and mathematical model for recombinant protein production and downstream processing  
 AUTHOR: SELBER K; COLLEN A; HYYTIA T; PENTTILA M; TJERNELD F; KULA MR  
 CORPORATE SOURCE: Univ Dusseldorf; Lund Univ; VTT Biotechnol  
 LOCATION: Selber K,  
 SOURCE: BIOSEPARATION; (2001) 10, 4-5, 229-236  
           ISSN: 0923-179X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AN 2002-10300 BIOTECHDS  
 AB AUTHOR ABSTRACT - The parameters important for an optimisation of cloud point extraction in technical scale were investigated using a genetically engineered fusion protein derived from endoglucanase I expressed in Trichoderma reesei and the nonionic polyoxyethylene Agrimul NRE 1205. The key parameters are temperature, detergent concentration, and additional salts. These parameters are interdependent, thus there is an optimum in the partition coefficient with respect to detergent concentration and a maximum for the partition coefficient and the yield with respect to temperature. These results were confirmed for the detergent C12E5 to demonstrate that these optima are due to the nature of polyoxyethylenes. Cloud point extraction was found to be only slightly affected by pH. In the case studied extraction of whole broth is favourable for a high yield and partition coefficient, since fusion protein adhering to the cells can be solubilized. However some loss of detergent which remains in the fungal biomass was observed. (8 pages)

L68 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 2001:197443 CAPLUS  
 TITLE: Protein extraction using **aqueous two-phase** systems  
 AUTHOR(S): Kula, Maria-Regina A.; Selber, Klaus  
 CORPORATE SOURCE: Institute of Enzyme Technology, Heinrich Heine University Dusseldorf, D-52428 Juelich, Germany  
 SOURCE: Abstracts of Papers - American Chemical Society (2001), 221st, BIOT-136  
           CODEN: ACSRAL; ISSN: 0065-7727  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; Meeting Abstract  
 LANGUAGE: English  
 AB Solvent extraction is widely used in industry to isolate labile compds. Proteins are amenable to extraction using **aq. two-phase** systems. This approach has the advantage, that whole broth or cell homogenates can be processed integrating product capture with the

removal of solids in a single unit operation. Continuous isolation of enzymes from homogenates will be demonstrated in pilot scale processing 500 kg yeast per day. The very low interfacial tension of these systems allows mixing with low energy input and fast approach to equilibrium, which has to be taken into special consideration when operating conventional multistage extraction equipment. The interfacial tension may limit centrifugal phase separation. The latter was observed during the isolation of an endoglucanase I- **hydrophobin** fusion protein from *Trichoderma spec.* in a cloud point extraction. Gravity settling is a useful, low cost option to sep. aqueous phases since emulsions are rarely encountered.

L68 ANSWER 14 OF 21 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN

ACCESSION NUMBER: 2001-03035 BIOTECHDS

TITLE: Isolation and purification of proteins or cells in **aqueous two-phase** systems, comprises combining a desired protein or a cell to a targeting protein capable of isolating the protein or cell into one of the phases; vector-mediated CM-cellulase, hemicellulase, protease or antibody gene transfer and expression in *Saccharomyces cerevisiae* for recombinant protein production and protein purification

AUTHOR: Penttila M; Nakari-Setälä T; Fagerström R; Selber K; Kula M R; Linder M; Tjerneld F

PATENT ASSIGNEE: VTT

LOCATION: Espoo, Finland.

PATENT INFO: WO 2000058342 5 Oct 2000

APPLICATION INFO: WO 2000-FI249 24 Mar 2000

PRIORITY INFO: FI 1999-1782 20 Aug 1999; FI 1999-667 25 Mar 1999

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2000-686858 [67]

AN 2001-03035 BIOTECHDS

AB A method for the isolation and purification of proteins (CM-cellulase, hemicellulase, protease or antibody) or cells in aqueous two-phase systems (ATPS) is new and involves combining a desired protein or a cell to an amphipathic or hydrophobic target protein (I) having the ability to separate in ATPS and to carry the protein or cell into 1 of the phases, and subjecting the fusion protein or cell carrying (I) to an ATPS separation. Also claimed are: a fusion protein (II) having (I) fused to a desired protein; a recombinant organism producing (II); a recombinant DNA with a DNA molecule encoding (II); preparation of (II) by transforming an organism with DNA enabling expression of (I) and recovering the protein from the organism culture; and separating **hydrophobins** or **hydrophobin**-like proteins in ATPSs by mixing solutions containing the **hydrophobin**-like protein with phase forming chemicals and carrying out ATPS separation. The method is used to isolate and purify proteins or cells in ATPSs. In an example, *Saccharomyces cerevisiae* VTT-C-99315 and H2155 (plasmid pYES2) were cultivated were used for experiments. (109pp)

L68 ANSWER 15 OF 21 USPATFULL on STN

ACCESSION NUMBER: 1999:75157 USPATFULL

TITLE: Method for preparing hydrophobic fumed silica

INVENTOR(S): Griffith, Phillip Joseph, Llandough, United Kingdom  
Herron, William, South Glamorgan, United Kingdom  
Harkness, Brian Robert, Vale of Glamorgan, United Kingdom  
Taylor, Rosemary Margaret, Vale of Glamorgan, United Kingdom  
Wilson, David James, South Glamorgan, United Kingdom  
PATENT ASSIGNEE(S): Dow Corning Corporation, Midland, MI, United States (U.S. corporation)

NUMBER	KIND	DATE
-----		

TENT INFORMATION: US 5919298 19990706  
PLICATION INFO.: US 1998-5852 19980112 (9)  
CUMENT TYPE: Utility  
LE SEGMENT: Granted  
IMARY EXAMINER: Brunsman, David  
GAL REPRESENTATIVE: Boley, William F.  
MBER OF CLAIMS: 27  
EMPLARY CLAIM: 1  
NE COUNT: 727

S INDEXING IS AVAILABLE FOR THIS PATENT.

A method for the preparation of hydrophobic fumed silicas which are useful, for example, as reinforcing fillers in rubber compositions. The method comprises two steps, where in the first step an aqueous suspension of fumed silica is contacted with an organosilicon compound in the presence of a catalytic amount of an acid to effect **hydrophobing** of the fumed silica. In the preferred method the first step is conducted in the presence of a water miscible organic solvent which facilitates **hydrophobing** of the fumed silica with the organosilicon compound and the fumed silica has a BET surface area greater than 50 m.sup.2 /g. In the second step the aqueous suspension of the fumed silica is contacted with a water-immiscible organic solvent at a solvent to silica weight ratio greater than 0.1:1 to effect separation of the hydrophobic fumed silica from the aqueous phase. In a preferred process the hydrophobic fumed silica has a surface area within a range of about 100 m.sup.2 /g to 750 m.sup.2 /g.

S INDEXING IS AVAILABLE FOR THIS PATENT.

8 ANSWER 16 OF 21 USPATFULL on STN

CESSION NUMBER: 1999:63133 USPATFULL  
TILE: Method of preparing hydrophobic precipitated silica  
VENTOR(S): Griffith, Phillip J., Llandough, United Kingdom  
Harkness, Brian R., Cowbridge, United Kingdom  
Herron, William, Cowbridge, United Kingdom  
Taylor, Rosemary M., Barry, United Kingdom  
Wilson, David J., Penarth, United Kingdom  
TENT ASSIGNEE(S): Dow Corning Corporation, Midland, MI, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
TENT INFORMATION:	US 5908660		19990601
PLICATION INFO.:	US 1997-923073		19970903 (8)
CUMENT TYPE:	Utility		
LE SEGMENT:	Granted		
IMARY EXAMINER:	Cameron, Erma		
GAL REPRESENTATIVE:	Boley, William F.		
MBER OF CLAIMS:	20		
EMPLARY CLAIM:	1		
NE COUNT:	446		

S INDEXING IS AVAILABLE FOR THIS PATENT.

A method for the preparation of hydrophobic precipitated silicas which are useful, for example, as reinforcing fillers in rubber compositions. The method comprises two steps, where in the first step an aqueous suspension of precipitated silica is contacted with an organosilicon compound in the presence of a catalytic amount of an acid to effect **hydrophobing** of the precipitated silica. In the second step the aqueous suspension of the hydrophobic precipitated silica is contacted with a water-immiscible organic solvent at a solvent to silica weight ratio greater than 5:1 to effect separation of the hydrophobic precipitated silica from the aqueous phase.

S INDEXING IS AVAILABLE FOR THIS PATENT.

3 ANSWER 17 OF 21 USPATFULL on STN

CESSION NUMBER: 95:1293 USPATFULL

TITLE: Non-aqueous liquid cleaning products comprising  
polyalkoxylated derivatives of castor oil ricinoleic  
acid and analogous fatty alcohols  
INVENTOR(S): Houghton, Mark P., Rotterdam, Netherlands  
Verburg, Charles C., Vlaardingen, Netherlands  
PATENT ASSIGNEE(S): Lever Brothers Company, Division of Conopco, Inc., New  
York, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5378387		19950103
PUBLICATION INFO.:	US 1993-71436		19930601 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1992-201565	19920602
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Lieberman, Paul	
ASSISTANT EXAMINER:	Hertzog, A.	
LEGAL REPRESENTATIVE:	Koatz, Ronald A.	
NUMBER OF CLAIMS:	5	
EMPLARY CLAIM:	1,4	
LINE COUNT:	700	

US INDEXING IS AVAILABLE FOR THIS PATENT.

Substantially non-aqueous liquid cleaning compositions comprising a  
non-aqueous liquid phase that comprises a polyalkoxylated castor oil  
derivative and/or polyalkoxylated derivatives of ricinoleic acid (set  
forth as formula (III)) and/or polyalkoxylated derivatives of analogous  
fatty alcohols (set forth as formula (IV)).

US INDEXING IS AVAILABLE FOR THIS PATENT.

8 ANSWER 18 OF 21 USPATFULL on STN

APPLICATION NUMBER: 82:39765 USPATFULL  
TITLE: Method for producing hydrophobic reinforcing silica  
fillers and fillers obtained thereby  
INVENTOR(S): Lutz, Michael A., Midland, MI, United States  
PATENT ASSIGNEE(S): Dow Corning Corporation, Midland, MI, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4344800		19820817
PUBLICATION INFO.:	US 1980-156002		19800603 (6)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dees, Carl F.		
LEGAL REPRESENTATIVE:	Rakoczy, Richard E.		
NUMBER OF CLAIMS:	84		
EMPLARY CLAIM:	1,43		
LINE COUNT:	2072		

US INDEXING IS AVAILABLE FOR THIS PATENT.

Hydrophobic reinforcing silica fillers for silicone rubber are produced  
by the steps of mixing an alkyl silicate, preferably methyl  
orthosilicate, at least 70% of one-half of the stoichiometric amount of  
water required to hydrolyze the alkoxy radicals present in the alkyl  
silicate, an alcohol and at least 0.05 moles (per mole of theoretical  
SiO<sub>2</sub> units present in the alkyl silicate) of a hydrophobe agent  
such as hexamethyldisilazane together in the presence of a basic  
catalyst, said hydrophobe agent being added prior to the gelation of the  
mixture, and aging the mixture to obtain a composition containing a  
hydrophobic reinforcing silica filler for silicone rubber. Preferably,  
the hydrophobe agent is added prior to or concurrently with the addition  
of the alkyl silicate. Vulcanized silicone rubbers possessing tensile  
strengths in excess of 12.4 megapascals and tear strengths of greater

than 31 kiloNewtons/meter can be prepared using the above fillers.

S INDEXING IS AVAILABLE FOR THIS PATENT.

8 ANSWER 19 OF 21 DGENE COPYRIGHT 2004 THOMSON DERWENT on STN

CESSION NUMBER: AAA95429 DNA DGENE

TITLE: Isolation and purification of proteins or cells in  
**aqueous two-phase** systems,  
comprises combining a desired protein or a cell to a  
targeting protein capable of isolating the protein or cell  
into one of the phases -

INVENTOR: Penttilae M; Nakari-Setaelae T; Fagerstroem R; Selber K; Kula  
M; Linder M; Tjerneld F

PATENT ASSIGNEE: (VALW)VALTION TEKNILLINEN TUTKIMUSKESKUS.

PATENT INFO: WO 2000058342 A1 20001005 109p

PLICATION INFO: WO 2000-FI249 20000324

PRIORITY INFO: FI 1999-667 19990325

FI 1999-1782 19990820

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2000-686858 [67]

DESCRIPTION: S. commune **SC3** coding sequence PCR primer #2.

AAA95429 DNA DGENE

3 The present invention is related to a novel method for separating,  
purifying and isolating proteins and cells. This involves the use of  
liquid-liquid extraction in an **aqueous two-**  
**phase** system (ATPS) which partitions molecules by fusing them to  
targeting proteins which then carry the molecules of interest into one of  
the phases. The present sequence is a PCR primer which was used to  
demonstrate the method of the invention. The method is useful in also  
useful in the identification of nucleic acid sequences in expression  
library screening.

58 ANSWER 20 OF 21 DGENE COPYRIGHT 2004 THOMSON DERWENT on STN

CESSION NUMBER: AAA95428 DNA DGENE

TITLE: Isolation and purification of proteins or cells in  
**aqueous two-phase** systems,  
comprises combining a desired protein or a cell to a  
targeting protein capable of isolating the protein or cell  
into one of the phases -

INVENTOR: Penttilae M; Nakari-Setaelae T; Fagerstroem R; Selber K; Kula  
M; Linder M; Tjerneld F

PATENT ASSIGNEE: (VALW)VALTION TEKNILLINEN TUTKIMUSKESKUS.

PATENT INFO: WO 2000058342 A1 20001005 109p

PLICATION INFO: WO 2000-FI249 20000324

PRIORITY INFO: FI 1999-667 19990325

FI 1999-1782 19990820

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2000-686858 [67]

DESCRIPTION: S. commune **SC3** coding sequence PCR primer #1.

AAA95428 DNA DGENE

3 The present invention is related to a novel method for separating,  
purifying and isolating proteins and cells. This involves the use of  
liquid-liquid extraction in an **aqueous two-**  
**phase** system (ATPS) which partitions molecules by fusing them to  
targeting proteins which then carry the molecules of interest into one of  
the phases. The present sequence is a PCR primer which was used to  
demonstrate the method of the invention. The method is useful in also  
useful in the identification of nucleic acid sequences in expression  
library screening.

58 ANSWER 21 OF 21 DGENE COPYRIGHT 2004 THOMSON DERWENT on STN

CESSION NUMBER: AAA95427 DNA DGENE

TITLE: Isolation and purification of proteins or cells in  
**aqueous two-phase** systems,

comprises combining a desired protein or a cell to a targeting protein capable of isolating the protein or cell into one of the phases -

INVENTOR: Penttilae M; Nakari-Setaelae T; Fagerstroem R; Selber K; Kula M; Linder M; Tjerneld F

PATENT ASSIGNEE: (VALW) VALTION TEKNILLINEN TUTKIMUSKESKUS.

PATENT INFO: WO 2000058342 A1 20001005 109p

APPLICATION INFO: WO 2000-FI249 20000324

PRIORITY INFO: FI 1999-667 19990325

FI 1999-1782 19990820

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2000-686858 [67]

DESCRIPTION: S. commune **SC3** coding sequence.

AN AAA95427 DNA DGENE

AB The present invention is related to a novel method for separating, purifying and isolating proteins and cells. This involves the use of liquid-liquid extraction in an **aqueous two-phase** system (ATPS) which partitions molecules by fusing them to targeting proteins which then carry the molecules of interest into one of the phases. The present sequence was used in a fusion molecule to demonstrate the method of the invention. The method is useful in also useful in the identification of nucleic acid sequences in expression library screening.

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ATE: Wednesday, May 26, 2004

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<input type="checkbox"/>	L23	(hfbI or hfbII or srhI or sc3) and (aqueous same two adj phase )	4
<input type="checkbox"/>	L22	(hfb\$ or srhI or sc3) and (aqueous same two adj phase )	17
<input type="checkbox"/>	L21	(hfb\$ or srhI or sc3) and (aqueous adj two adj phase )	1
<input type="checkbox"/>	L20	(hfb\$ or srhI or sc3) and (aqueous adj two adj phase or ATPS)	215
<input type="checkbox"/>	L19	(hfb\$ or srhI or sc3) and (aqueous adj two adj phase or ATPS)	215
<input type="checkbox"/>	L18	(hfb\$ or srhI or sc3) and (aqueous same two adj phase or ATPS)	231
<input type="checkbox"/>	L17	(hfb\$ or srhI or sc3) and (aqueous same two same phase or ATPS)	260
<input type="checkbox"/>	L16	(hfb\$ or srhI) and aqueous same phase	179
<input type="checkbox"/>	L15	(hfb\$ or srhI) and hydrophobin and aqueous same phase	1
<input type="checkbox"/>	L14	(hfb\$ or srhI) same hydrophobin and aqueous same phase	0
<i>DB=PGPB,USPT,EPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L13	(hfb\$ or srhI) same hydrophobin and aqueous same phase	0
<input type="checkbox"/>	L12	sc3 same hydrophobin and aqueous same phase	0
<input type="checkbox"/>	L11	sc3 same hydrophobin and two same phase	0
<input type="checkbox"/>	L10	sc3 same hydrophobin	5
<input type="checkbox"/>	L9	(hydrophobin or amphipath\$ or HFBI or HFBII or SRHI ) same aqueous same two adj phase	11
<input type="checkbox"/>	L8	(hydrophobin or surfactant or amphipath\$ or HFBI or HFBII or SRHI ) same aqueous same two adj phase	620
<input type="checkbox"/>	L7	(hydrophobin or surfactant or amphipath\$ or HFBI or HFBII or SRHI ) same aqueous same two adj phase	611
<input type="checkbox"/>	L6	(hydrophobin or surfactant or amphipath\$) and aqueous same two adj phase	3799
<input type="checkbox"/>	L5	hydrophobin and aqueous same two adj phase	1
<input type="checkbox"/>	L4	hydrophobin? and aqueous same two adj phase	6
<input type="checkbox"/>	L3	hydrophobin\$ and aqueous same two adj phase	6
<input type="checkbox"/>	L2	hydrophobin\$ and aqueous adj two adj phase	1
<input type="checkbox"/>	L1	hydrophobin\$	764

ND OF SEARCH HISTORY

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 20020131147 A1

Using default format because multiple data bases are involved.

L4: Entry 1 of 6

File: PGPB

Sep 19, 2002

PUB-DOCUMENT-NUMBER: 20020131147

PUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020131147 A1

TITLE: Electrophoretic medium and process for the production thereof

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Polini, Richard J. JR.	Arlington	MA	US	
Miller, David D.	Billerica	MA	US	
Miskey, Barrett	Cambridge	MA	US	

-CL-CURRENT: 359/296; 359/290

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw Desc	Image
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☐ 2. Document ID: US 5919298 A

L4: Entry 2 of 6

File: USPT

Jul 6, 1999

-PAT-NO: 5919298

DOCUMENT-IDENTIFIER: US 5919298 A

TITLE: Method for preparing hydrophobic fumed silica

DATE-ISSUED: July 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McCarthy; Phillip Joseph	Llandough			GB
Marion; William	South Glamorgan			GB
Markness; Brian Robert	Vale of Glamorgan			GB
Myler; Rosemary Margaret	Vale of Glamorgan			GB
Olson; David James	South Glamorgan			GB

L-CURRENT: 106/490; 423/336, 423/337

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Attachments	Claims	KMC	Draw Desc	Image
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☐ 3. Document ID: US 5908660 A

Entry 3 of 6

File: USPT

Jun 1, 1999

AT-NO: 5908660

MENT-IDENTIFIER: US 5908660 A

See image for Certificate of Correction \*\*

E: Method of preparing hydrophobic precipitated silica

-ISSUED: June 1, 1999

## NTOR-INFORMATION:

	CITY	STATE	ZIP CODE	COUNTRY
fith; Phillip J.	Llandough			GB
ness; Brian R.	Cowbridge			GB
on; William	Cowbridge			GB
or; Rosemary M.	Barry			GB
on; David J.	Penarth			GB

L-CURRENT: 427/220; 106/490, 427/221, 427/443.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Attachments	Claims	KMC	Draw Desc	Image
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☐ 4. Document ID: US 5378387 A

Entry 4 of 6

File: USPT

Jan 3, 1995

AT-NO: 5378387

MENT-IDENTIFIER: US 5378387 A

E: Non-aqueous liquid cleaning products comprising polyalkoxylated derivatives of castor  
ricinoleic acid and analogous fatty alcohols

-ISSUED: January 3, 1995

## NTOR-INFORMATION:

	CITY	STATE	ZIP CODE	COUNTRY
ghton; Mark P.	Rotterdam			NL
ourg; Charles C.	Vlaardingen			NL

L-CURRENT: 510/161; 510/221, 510/235, 510/304, 510/312, 510/338, 510/356, 510/413, 510/437

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Attachments	Claims	KMC	Draw Desc	Image
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☐ 5. Document ID: US 4344800 A

4: Entry 5 of 6

File: USPT

Aug 17, 1982

AT-NO: 4344800

MENT-IDENTIFIER: US 4344800 A

ee image for Certificate of Correction \*\*

E: Method for producing hydrophobic reinforcing silica fillers and fillers obtained thereby

-ISSUED: August 17, 1982

NTOR-INFORMATION:

	CITY	STATE	ZIP CODE	COUNTRY
; Michael A.	Midland	MI		

L-CURRENT: 106/481; 106/490, 502/158, 502/200, 524/588, 524/860

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Image
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☐ 6. Document ID: NZ 514891 A, WO 200058342 A1, AU 200035621 A, EP 1163260 A1, NO 200104534 A, KR 2001108400 A, CN 1357005 A, JP 2002543766 W

4: Entry 6 of 6

File: DWPI

Oct 31, 2003

ENT-ACC-NO: 2000-686858

ENT-WEEK: 200380

RIGHT 2004 DERWENT INFORMATION LTD

E: Isolation and purification of proteins or cells in aqueous two-phase systems, comprises  
ining a desired protein or a cell to a targeting protein capable of isolating the protein  
ell into one of the phases

NTOR: FAGERSTROEM, R; KULA, M ; LINDER, M ; NAKARI-SETAELAE, T ; PENTTILAE, M ; SELBER, K ;  
NELD, F ; FAGERSTROM, R ; NAKARI-SETALA, T ; PENTTILA, M

RITY-DATA: 1999FI-0001782 (August 20, 1999), 1999FI-0000667 (March 25, 1999)

NT-FAMILY:

NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>14891 A</u>	October 31, 2003		000	C07K001/14
<u>00058342 A1</u>	October 5, 2000	E	109	C07K001/14
<u>00035621 A</u>	October 16, 2000		000	C07K001/14
<u>163260 A1</u>	December 19, 2001	E	000	C07K001/14
<u>00104534 A</u>	November 26, 2001		000	C07K000/00
<u>001108400 A</u>	December 7, 2001		000	C07K001/20
<u>357005 A</u>	July 3, 2002		000	C07K001/14
<u>002543766 W</u>	December 24, 2002		112	C12N015/09

CL (IPC): B01 D 17/025; B01 D 17/038; C07 K 0/00; C07 K 1/14; C07 K 1/20; C07 K 14/37; C07  
/00; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/24; C12 N 15/09; C12 N 15/62;  
P 21/02; C12 R 1:885

Full	Title	Citation	Front	Review	Classification	Date	Reference	Identifiers	Classification	Claims	KWIC	Draw Desc	Image
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TWOS	2730
TWOE	13
PHASE	1312595
PHASES	277510
HYDROPHOBIN?	0
HYDROPHOBING	690
(HYDROPHOBIN? AND AQUEOUS SAME TWO ADJ PHASE).PGPB,USPT,EPAB,DWPI,TDBD.	6

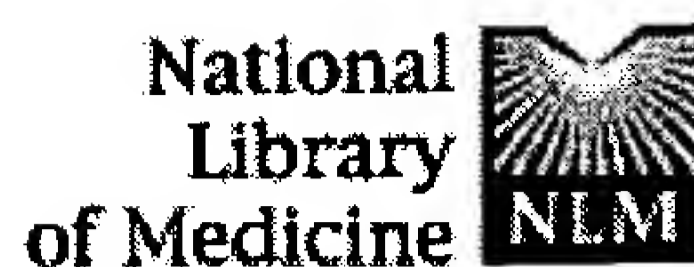
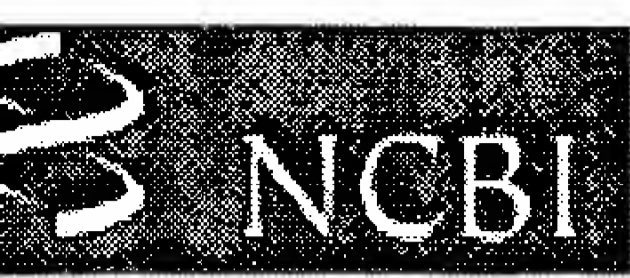
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☐ 1: [Nakari-Setälä T, Azeredo J, Henriques M, Oliveira R, Teixeira J, Linder M, Penttilä M.](#) Related Articles, Links

Expression of a fungal hydrophobin in the *Saccharomyces cerevisiae* cell wall: effect on cell surface properties and immobilization.  
Appl Environ Microbiol. 2002 Jul;68(7):3385-91.  
PMID: 12089019 [PubMed - indexed for MEDLINE]

☐ 2: [Breinig F, Schmitt MJ.](#) Related Articles, Links

Spacer-elongated cell wall fusion proteins improve cell surface expression in the yeast *Saccharomyces cerevisiae*.  
Appl Microbiol Biotechnol. 2002 Apr;58(5):637-44. Epub 2002 Feb 12.  
PMID: 11956747 [PubMed - indexed for MEDLINE]

☐ 3: [Askolin S, Nakari-Setälä T, Tenkanen M.](#) Related Articles, Links

Overproduction, purification, and characterization of the *Trichoderma reesei* hydrophobin HFBI.  
Appl Microbiol Biotechnol. 2001 Oct;57(1-2):124-30.  
PMID: 11693908 [PubMed - indexed for MEDLINE]

☐ 4: [Linder M, Selber K, Nakari-Setälä T, Qiao M, Kula MR, Penttilä M.](#) Related Articles, Links

The hydrophobins HFBI and HFBII from *Trichoderma reesei* showing efficient interactions with nonionic surfactants in aqueous two-phase systems.  
Biomacromolecules. 2001 Summer;2(2):511-7.  
PMID: 11749214 [PubMed - indexed for MEDLINE]

☐ 5: [Nakari-Setälä T, Aro N, Kalkkinen N, Alatalo E, Penttilä M.](#) Related Articles, Links

Genetic and biochemical characterization of the *Trichoderma reesei* hydrophobin HFBI.  
Eur J Biochem. 1996 Jan 15;235(1-2):248-55.  
PMID: 8631337 [PubMed - indexed for MEDLINE]


☐ 6: [Linder M, Szilvay GR, Nakari-Setälä T, Soderlund H, Penttilä M.](#) Related Articles, Links

Surface adhesion of fusion proteins containing the hydrophobins HFBI and HFBII from *Trichoderma reesei*.  
Protein Sci. 2002 Sep;11(9):2257-66.  
PMID: 12192081 [PubMed - indexed for MEDLINE]


☐ 7: [Penttilä ME, Andre L, Lehtovaara P, Bailey M, Teeri TT, Knowles JK.](#) Related Articles, Links

Efficient secretion of two fungal cellobiohydrolases by *Saccharomyces cerevisiae*.  
Gene. 1988;63(1):103-12.  
PMID: 3290051 [PubMed - indexed for MEDLINE]


☐ 8: [Andres I, Zueco J, Parascandola P.](#) Related Articles, Links

 Immobilization of *Saccharomyces cerevisiae* cells to protein G-Sepharose by cell wall engineering.  
J Mol Microbiol Biotechnol. 2003;5(3):161-6.  
PMID: 12766345 [PubMed - indexed for MEDLINE]


☐ **9:** [Shimoi H, Sakamoto K, Okuda M, Atthi R, Iwashita K, Ito K.](#) [Related Articles, Links](#)

 The Awa1 gene is required for the foam-forming phenotype and cell surface hydrophobicity of sake yeast.  
Appl Environ Microbiol. 2002 Apr;68(4):2018-25.  
PMID: 11916725 [PubMed - indexed for MEDLINE]


☐ **10:** [Munoz G, Nakari-Setälä T, Agosin E, Penttilä M.](#) [Related Articles, Links](#)

 Hydrophobin gene *srh1*, expressed during sporulation of the biocontrol agent *Trichoderma harzianum*.  
Curr Genet. 1997 Sep;32(3):225-30.  
PMID: 9339348 [PubMed - indexed for MEDLINE]


☐ **11:** [Bony M, Thines-Sempoux D, Barre P, Blondin B.](#) [Related Articles, Links](#)

 Localization and cell surface anchoring of the *Saccharomyces cerevisiae* flocculation protein Flo1p.  
J Bacteriol. 1997 Aug;179(15):4929-36.  
PMID: 9244284 [PubMed - indexed for MEDLINE]


☐ **12:** [Utsugi T, Minemura M, Hirata A, Abe M, Watanabe D, Ohya Y.](#) [Related Articles, Links](#)

 Movement of yeast 1,3-beta-glucan synthase is essential for uniform cell wall synthesis.  
Genes Cells. 2002 Jan;7(1):1-9.  
PMID: 11856368 [PubMed - indexed for MEDLINE]


☐ **13:** [Van der Vaart JM, te Biesebeke R, Chapman JW, Toschka HY, Klis FM, Verrips CT.](#) [Related Articles, Links](#)

 Comparison of cell wall proteins of *Saccharomyces cerevisiae* as anchors for cell surface expression of heterologous proteins.  
Appl Environ Microbiol. 1997 Feb;63(2):615-20.  
PMID: 9023939 [PubMed - indexed for MEDLINE]


☐ **14:** [Penttilä ME, Andre L, Saloheimo M, Lehtovaara P, Knowles JK.](#) [Related Articles, Links](#)

 Expression of two *Trichoderma reesei* endoglucanases in the yeast *Saccharomyces cerevisiae*.  
Yeast. 1987 Sep;3(3):175-85.  
PMID: 3332972 [PubMed - indexed for MEDLINE]


☐ **15:** [Valkonen M, Penttilä M, Saloheimo M.](#) [Related Articles, Links](#)

 Effects of inactivation and constitutive expression of the unfolded-protein response pathway on protein production in the yeast *Saccharomyces cerevisiae*.  
Appl Environ Microbiol. 2003 Apr;69(4):2065-72.  
PMID: 12676684 [PubMed - indexed for MEDLINE]


☐ **16:** [Alexandre H, Blanchet S, Charpentier C.](#) [Related Articles, Links](#)

 Identification of a 49-kDa hydrophobic cell wall mannoprotein present in velum yeast which may be implicated in velum formation.  
FEMS Microbiol Lett. 2000 Apr 15;185(2):147-50.  
PMID: 10754239 [PubMed - indexed for MEDLINE]


☐ **17:** [Caro LH, Tettelin H, Vossen JH, Ram AF, van den Ende H, Klis FM.](#) [Related Articles, Links](#)

-  In silico identification of glycosyl-phosphatidylinositol-anchored plasma-membrane and cell wall proteins of *Saccharomyces cerevisiae*.  
Yeast. 1997 Dec;13(15):1477-89.  
PMID: 9434352 [PubMed - indexed for MEDLINE]


☐ **18:** [Schreuder MP, Brekelmans S, van den Ende H, Klis FM.](#) [Related Articles, Links](#)

-  Targeting of a heterologous protein to the cell wall of *Saccharomyces cerevisiae*.  
Yeast. 1993 Apr;9(4):399-409.  
PMID: 8390128 [PubMed - indexed for MEDLINE]

☐ **19:** [Motshwene P, Karreman R, Kgari G, Brandt W, Lindsey G.](#) [Related Articles, Links](#)

-  LEA (late embryonic abundant)-like protein Hsp 12 (heat-shock protein 12) is present in the cell wall and enhances the barotolerance of the yeast *Saccharomyces cerevisiae*.  
Biochem J. 2004 Feb 1;377(Pt 3):769-74.  
PMID: 14570591 [PubMed - indexed for MEDLINE]

☐ **20:** [de Nobel H, Ruiz C, Martin H, Morris W, Brul S, Molina M, Klis FM.](#) [Related Articles, Links](#)

-  Cell wall perturbation in yeast results in dual phosphorylation of the Slt2/Mpk1 MAP kinase and in an Slt2-mediated increase in FKS2-lacZ expression, glucanase resistance and thermotolerance.  
Microbiology. 2000 Sep;146 ( Pt 9):2121-32.  
PMID: 10974100 [PubMed - indexed for MEDLINE]

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